

徐爱昆

1996 年 10 月 ◊ 中共党员 ◊ 广西桂林 ◊ 预计 2026 年 6 月毕业

边缘计算 ◊ 边缘智能

(+86)15927598235 ◊ 727850024@qq.com ◊ 主页: <https://xuaikun.github.io/>



教育背景

工学博士	中南大学	计算机科学与技术	2022.09 – 至今
导师: 胡志刚 教授			
工学硕士 (推免)	中南大学	计算机科学与技术	2019.09 – 2022.06
导师: 钟萍 副教授			
工学学士	中南民族大学	智能科学与技术	2015.09 – 2019.06
导师: 康怡琳 助理教授			

科研成果

• 第一作者 (博士阶段):

1. **Aikun Xu**, Zhigang Hu, Meiguang Zheng, Bolei Chen, Hui Xiao, Hao Zheng, and Yang Liang. FairMS: Fair DNN Model Selection Algorithm for Collaborative Edge Intelligence [C]. **International Conference on Intelligent Computing (ICIC), 2025. (CCF C)**
2. **Aikun Xu**, Zhigang Hu, Xi Li, Bolei Chen, Hui Xiao, Xinyu Zhang, Hao Zheng, Xianting Feng, Meiguang Zheng, Ping Zhong, and Keqin Li. CoMS: Collaborative DNN Model Selection for Heterogeneous Edge Computing Systems [J]. **IEEE Transactions on Vehicular Technology (TVT), 2025. (JCR Q1)**
3. **Aikun Xu**, Zhigang Hu, Xi Li, Rongti Tian, Xinyu Zhang, Bolei Chen, Hui Xiao, Hao Zheng, Xianting Feng, Meiguang Zheng, Ping Zhong, and Keqin Li. TransEdge: Task Offloading with GNN and DRL in Edge Computing-Enabled Transportation System [J]. **IEEE Internet of Things Journal (IoTJ), 2024. (JCR Q1)**
4. **Aikun Xu**, Zhigang Hu, Xinyu Zhang, Hui Xiao, Hao Zheng, Bolei Chen, Meiguang Zheng, Ping Zhong, Yilin Kang, and Keqin Li. QDRL: Queue-aware Online DRL for Computation Offloading in Industrial Internet of Things [J]. **IEEE Internet of Things Journal (IoTJ), 2023. (JCR Q1)**
5. **Aikun Xu**, Ping Zhong, Yilin Kang, Jiongqiang Duan, Mingming Lu, and Chuan Shi. THAN: MultiModal Transportation Recommendation with Heterogeneous Graph Attention Networks [J]. **IEEE Transactions on Intelligent Transportation Systems (T-ITS), 2022. (CCF B, JCR Q1)**

• 学生第一 (硕士阶段):

1. Ping Zhong, **Aikun Xu**, Yilin Kang, Shigeng Zhang, and Yiming Zhang. An Optimal Deployment Scheme for Extremely Fast Charging Stations [J]. **Peer-to-Peer Networking and Applications (P2PNA), 2022. (CCF C, JCR Q2)**
2. 钟萍, **徐爱昆**, 张艺雯, 李亚婷, 张一鸣, 黄家玮, 王建新. 一种高效低能耗移动数据采集与无线充电策略 [J]. **软件学报, 2021. (T1 类期刊)**
3. Ping Zhong, **Aikun Xu**, Shigeng Zhang, Yiming Zhang, and Yingwen Chen. EMPC: Energy-Minimization Path Construction for Data Collection and Wireless Charging in WRSN [J]. **Pervasive and Mobile Computing (PMC), 2021. (CCF C, JCR Q2)**

4. Ping Zhong, **Aikun Xu**, Yuanming Chen, Feng Gao, and Guihua Duan. An Optimization Deployment Scheme for Static Charging Piles Based on Dynamic of Shared E-Bikes [C]. **International Conference on Mobile Ad-Hoc and Sensor Networks (MSN)**, 2019. (CCF C)

• 共同作者

1. Hao Zheng, Zhigang Hu, Liu Yang, Meiguang Zheng, **Aikun Xu**, and Boyu Wang. FedCALM: Conflict-aware Layer-wise Mitigation for Selective Aggregation in Deeper Personalized Federated Learning [C]. **Conference on Computer Vision and Pattern Recognition (CVPR)**, 2025. (CCF A)
2. Hao Zheng, Zhigang Hu, Liu Yang, Meiguang Zheng, **Aikun Xu**, and Boyu Wang. ConFREE: Conflict-free Client Update Aggregation for Personalized Federated Learning [C]. **The 39th Annual AAAI Conference on Artificial Intelligence (AAAI)**, 2025. (CCF A, Oral)
3. Pengfei Wang*, Hao Zheng*, Zhigang Hu, **Aikun Xu**, and Meiguang Zheng. PCM-SAR: Physics-Driven Contrastive Mutual Learning for SAR Classification [C]. **IEEE International Conference on Multimedia & Expo 2025 (ICME)**, 2025. (CCF B)
4. Shiyu Song, Hao Zheng, Zhigang Hu, **Aikun Xu**, Liu Yang and Meiguang Zheng. PCM-SAR: Physics-Driven Contrastive Mutual Learning for SAR Classification [C]. **IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)**, 2025. (CCF B)
5. Hao Zheng, Zhigang Hu, Liu Yang*, **Aikun Xu**, Meiguang Zheng, Hui Xiao, and Keqin Li. Proactive Spatio-Temporal Request Prediction for Replica Placement in Edge-Cloud Computing [J]. **IEEE Internet of Things Journal(IoTJ)**, 2025. (JCR Q1)
6. Hui Xiao, Zhigang Hu, Xinyu Zhang, **Aikun Xu**, Meiguang Zheng, and Keqin Li. Federated Deep Reinforcement Learning for Task Offloading in MEC-enabled Heterogeneous Networks [J]. **IEEE Internet of Things Journal(IoTJ)**, 2024. (JCR Q1)
7. Hui Xiao, Zhigang Hu, **Aikun Xu**, and Meiguang Zheng. Cost and QoS-Aware Service Migration in Vehicular Edge Computing Networks With Limited Backhaul Capacity [C]. **IEEE International Conference on Ubiquitous Intelligence and Computing(UIC)**, 2024. (CCF C)
8. Zhaoyi Li, Jiawei Huang, Yijun Li, **Aikun Xu**, Shengwen Zhou, Jingling Liu, and Jianxin Wang. A2TP: Aggregator-aware In-network Aggregation for Multi-tenant Learning [C]. **European Conference on Computer Systems (EuroSys)**, 2023. (CCF A)
9. Hao Zheng, Zhigang Hu, Liu Yang, **Aikun Xu**, Meiguang Zheng, Ce Zhang and Keqin Li. Multifeature Collaborative Fusion Network with Deep Supervision for SAR Ship Classification [J]. **IEEE Transactions on Geoscience and Remote Sensing(TGRS)**, 2023. (JCR Q1)
10. Xinyu Zhang, Zhigang Hu, Meiguang Zheng, Liang Yang, Hui Xiao, Hao Zheng, and **Aikun Xu**. LFDC: Low-energy federated deep reinforcement learning for caching mechanism in cloud-edge collaborative [J]. **Applied Sciences**, 2023. (JCR Q3)

• 发明专利

1. 钟萍, **徐爱昆**, 王安宁, 鲁鸣鸣, 高建良. 一种基于异质图神经网络的多模态交通推荐方法 [P]. 湖南省: CN114969532B, 2025-02-07.(CN202210622315.4)
2. 钟萍, **徐爱昆**, 奎晓燕, 张艺雯. 基于团划分的静态充电桩部署方法 [P]. 湖南省: CN109872070B, 2023-04-07.(CN201910132418.0)

3. 钟萍, 王安宁, 徐爱昆, 王森章, 高建良. 基于 GPS 轨迹和图神经网络的出行时间预测方法 [P]. 湖南省: CN115420299B, 2024-07-26 (CN202211071242.0)

项目经历

- 项目主持:
 - 中南大学研究生自主探索项目: 边缘计算中面向深度学习任务的计算卸载策略研究 (512340030), 2023.12-2024.12, 主持.
 - 中南大学研究生自主探索项目: 具有个性化和情境感知的多模态交通推荐算法研究 (2021zzts0735), 2020.12-2021.12, 主持.
 - 中南大学校企合作项目: 面向厂区货车的融合式导航系统研究 (GCX2020347Y), 2019.12-2020.12, 主持.
- 项目参与:
 - 国家自然科学基金面上项目: 云边融合环境中面向数据密集型应用的性能优化机制研究 (62172442), 2021.1-2025.12, 参与.
 - 中南大学研究生自主探索项目: 面向机器人的适应性智能导航与场景感知 (2021zzts0753), 2020.1-2021.12, 参与.

奖励荣誉

- 奖学金类:
 - 中南大学博士生校长创新奖学金 (2024), 中南大学计算机学院博士一等学业奖学金 (2022-2025), 硕士研究生国家奖学金 (2021), 中南大学计算机学院硕士一等学业奖学金 (2019-2021), 中南民族大学优秀毕业生一等奖学金 (2019), 中南民族大学国家励志奖学金 (2017), 本科国家奖学金 (2016), 中南民族大学一等优秀奖学金 (2016)
- 荣誉称号类:
 - 中南大学计算机学院优秀学生 (2024), 中南大学优秀共青团员 (2020), 中南民族大学校“三好学生” (2016), 中南民族大学校“优秀共青团员” (2016, 2018), 中南民族大学校“自强自立之星” (2016)

学术兼职

- 审稿人: AAAI 2026, IEEE Transactions on Intelligent Transportation Systems (T-ITS), IEEE Transactions on Vehicular Technology (TVT), IEEE Internet of Things Journal (IoTJ), IEEE Transactions on Network and Service Management (TNSM), Journal of Supercomputing

自我评价

- 本人注重身心健康并长期保持运动习惯, 同时具有较强的科研能力和团队精神, 已为未来工作打下坚实基础。